

UNITED STATES PATENT APPLICATION

TITLE:

COLLAPSIBLE TRUNK ORGANIZER

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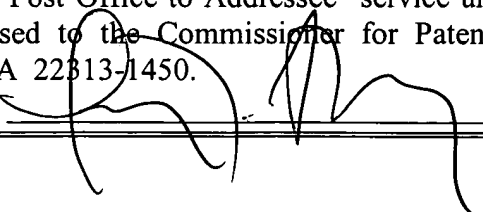
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COLLAPSIBLE TRUNK ORGANIZER

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention generally relates to receptacles and package and article carriers. More particularly, this invention relates to a collapsible trunk organizer.

2. DESCRIPTION OF THE RELATED ART

Automobile trunks and mini vans and other vehicles with relatively flat cargo storage areas provide little means for confining packages placed within such spaces. Thus, there exists a need for a system that provides, when needed, individual storage areas for segregating and supporting items such as grocery bags and the like and yet, when not needed, can be folded flat, so as to occupy minimal space so that the storage device need not be removed from the vehicle. Many relatively complicated, interlocking storage devices have been proposed for this purpose. These include those devices disclosed in U.S. Patent Nos. 3,986,656; 4,029,244; 4,189,056; 4,226,348; 5,004,146; 5,054,668; 5,167,363; 5,366,189; 5,419,471; 5,518,170; 5,538,148; 5,772,058; 5,819,996; 6,015,071; 6,206,224 and 6,488,168.

Although these storage devices serve to provide segregation and support for individual items, they tend to be somewhat complicated, expensive and few of them are easily converted between stored and use positions. Consequently, a need continues to exist for an inexpensive, durable, easy-to-use and compact storage

1 system for organizing vehicle storage area for the convenience of the user as well as
2 facilitating the support of items being transported.

3. OBJECTS AND ADVANTAGES

7 There has been summarized above, rather broadly, the prior art that is related
8 to the present invention in order that the context of the present invention may be
9 better understood and appreciated. In this regard, it is instructive to also consider the
10 objects and advantages of the present invention.

11 An object of the present invention is to provide a grocery shopping
12 convenience device for use and stowing within an automobile trunk or other vehicle
13 cargo space, and which overcomes the shortcomings of the prior art.

14 Specifically, it is an object to provide a portable collapsible organizer that,
15 when open for operative use, accommodates bags of groceries within properly sized,
16 rectangular shaped individual open cells for holding such bags in an upright position
17 against movement during transit; and which, after use, can be quickly closed in a
18 relatively flat configuration by collapsing it, without the need for any tools, added
19 parts or hardware, for convenient stowing.

20 It is another object of the present invention that this organizer use similar
21 procedures for opening and closing the organizer.

22 It is a further object of the present invention that this organizer be durable and
23 capable of being opened or closed numerous times.

24 It is an object of the present invention that this organizer be economical to
25 produce.

26 Other objects and advantages of the present invention will become readily
27 apparent as the invention is better understood by reference to the accompanying
28 drawings and the detailed description that follows.

SUMMARY OF THE INVENTION

The present invention is generally directed to satisfying the needs set forth above and overcoming the limitations and problems identified with prior interlocking storage devices.

In accordance with one preferred embodiment, the present invention takes the form of a portable, collapsible trunk or cargo space organizer. Its elements include: (a) an initially flat, rectangular main panel having a centerline between its ends, with a parallel fold line at a specified distance on each side of the centerline; these fold lines serving to define two movable, side sections and a middle section of this main panel, (b) a flat, rectangular middle panel whose top side corner edges have a specified radius of curvature, (c) flat, rectangular end panels whose width is approximately equal to the width of the main panel's middle section, and with the bottom edge of such end panels having a notch that is configured to cooperate with the middle panel's curved corner edges, (d) a strap of length approximately equal to the main panel's middle section, with each of the strap's ends attaching to one of the main panel's side edges and with its midpoint attaching to a point on the top edge of the middle panel, (e) means for coupling each of the top side corners of the end panels to one of the corners of the main panel's side edges, and (f) a means for hingedly coupling the middle panel's bottom edge proximate the centerline of the main panel.

In its stored mode, the ends of the organizer fold upward to allow the main panel's side sections and the middle panel to fold down so that the organizer can lay essentially flat. When in use, the main panel's side sections and the middle panel fold upward and are held in place by the end panels folding down so that their notches slide along the sides of middle panel so as to allow the end panels to stand upright to hold the various elements in place.

Thus, there has been summarized above, rather broadly, the present invention in order that the detailed description that follows may be better understood and appreciated. There are, of course, additional features of the invention that will be

1 described hereinafter and which will form the subject matter of any eventual claims to
2 this invention.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows an exploded view of the elements that comprise a preferred embodiment of the present invention.

FIG. 2 shows a perspective view of a preferred embodiment of the present invention in its fully assembled and in-use, upright configuration.

FIG. 3 shows a perspective view of a preferred embodiment of the present invention which illustrates how its end panels rotate upward.

FIG. 4 shows a perspective view of a preferred embodiment of the present invention in its collapsed and stored configuration.

FIG. 5 shows a perspective view of a preferred embodiment of the present invention which illustrates how one can use its straps to aid in pulling this organizer into its upright configuration.

FIG. 6 shows a perspective view of a preferred embodiment of the present invention which illustrates how its straps can serve to aid in compartmentalizing the storage area of the organizer.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Before explaining at least one embodiment of the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

Referring now to the drawings wherein are shown preferred embodiments and wherein like reference numerals designate like elements throughout, there is shown in FIG. 1 an exploded view of a preferred embodiment of the portable, collapsible trunk or cargo space organizer **2** of the present invention in its partly assembled stage. Its elements include what was initially a flat, rectangular main panel **10** having two side edges **12, 14** and two end edges **16, 18**. This panel has a centerline **20** between its ends and two fold lines **22, 24** or creases that run parallel to the side edges and serve to define two side sections **26, 28** and a middle section **30** of the panel. These fold lines facilitate the folding of the side sections **26, 28** so that they can be held vertical to the middle section **30**.

This organizer further includes a flat, rectangular middle panel **32** which has top and bottom side edges **34, 36** and two end edges **38, 40**. Its two, top side corners **42, 44** have a portion with a specified radius of curvature.

Flat, rectangular, end panel **46, 48** each have top **50, 52** and bottom **54, 56** side edges. The width of these panels is approximately equal to width of the middle section **30** of the main panel **10**. Each of these end panels has a notch **58, 60** in its bottom side edge **54, 56** that extends perpendicular to its bottom edge. A hinge coupling means **70** attaches the bottom edge **36** of said middle panel to the main panel's centerline **20**.

Coupling means **62, 64, 66, 68** connect these end panels **46, 48** at their top side corners to the top side corners of the raised side sections **26, 28** of the main panel **10**. In its assembled and in-use configuration, these end panels hang vertically

1 downward such that they are perpendicular to both the middle section 30 and side
2 sections 26, 28 of the main panel. They 46, 48 are positioned just inward the ends of
3 the side sections so that they serve as braces to hold these sections 26, 28 and the
4 middle panel 32 in an upright configuration. See FIG. 2.

5 The nature of these couplings is such that these ends 46, 48 can rotate inward
6 about their top edges. This is made possible because of the cooperation between the
7 ends' notches 58, 60 and the curved, corner portions 42, 44 of the middle panel 32.
8 See FIG. 3. For the first ninety degrees of this rotation, the ends' notches 58, 60 slide
9 along the sides of the middle panel while their side edges slide along the inward face
10 of the side sections 26, 28. Beyond ninety degrees, these ends are no longer in
11 contact with the middle panel or the side sections 26, 28 and thus the ends no longer
12 serve as braces to keep these elements upright. The corners of the middle panel's top
13 edge have been shaped so as to form stops 80, 82 that prevent the downward
14 swinging end panels 46, 48 from swinging beyond vertical. This serves to prevent
15 any openings being created around the end panels which could allow items to fall out
16 of the ends of the organizer.

17 The side sections 26, 28 and middle panel 32 can then rotate about their
18 respective fold lines 22, 24 and the main panel's centerline 20 so as to collapse the
19 organizer. See FIG. 4.

20 One or more straps 72, 74 span across the width of the organizer and are
21 releasably attached on their ends to the top edges of the side sections 26, 28 and in
22 their middle to the top edge 34 of the middle panel. The length of these straps is
23 approximately equal to that of to the width of the middle section 30 of the main panel.
24 These straps serve to aid in moving the side sections 26, 28 and the middle panel 32
25 in unison. See FIG. 5. They also help to compartmentalize the storage area of the
26 organizer. See FIG. 6.

27 Hook and loop fasteners 76, 78 may be added to the bottom of the middle
28 section 30 of the main panel 10 to help fasten the organizer 2 to any carpet that is
29 found in the trunk or storage area of a vehicle.

1 Many materials of construction are suitable for the fabrication of this
2 organizer. A fiberboard product with a woven cloth facing has been found to perform
3 well as the various panels of the organizer.

4 The foregoing descriptions of the invention have been presented for purposes
5 of illustration and description. Further, the description is not intended to limit the
6 invention to the form disclosed herein. Consequently, variations and modifications
7 commensurate with the above teachings, and combined with the skill or knowledge in
8 the relevant art are within the scope of the present invention.

9 The preferred embodiments described herein are further intended to explain
10 the best mode known of practicing the invention and to enable others skilled in the art
11 to utilize the invention in various embodiments and with various modifications
12 required by their particular applications or uses of the invention. It is intended that
13 the appended claims be construed to include alternate embodiments to the extent
14 permitted by the current art.

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